DOCUMENT RESUME

ED 258 056 CG 018 258

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TITLE Industrial Assessment of Creative Persons and Work Environments.
PUB DATE Aug 84
NOTE 7p.; Paper presented at the Annual Convention of the American Psychological Association (92nd, Toronto, Ontario, Canada, August 24-28, 1984).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Creativity; *Employee Attitudes; Industrial Personnel; *Job Performance; *Personality Measures; *Work Environment
IDENTIFIERS *Industrial Psychology; *Organizational Psychology

ABSTRACT

While personality psychology has a definite contribution to make to the study of industrial psychology and organizational behavior, it is a contribution with parameters, limitations, and areas of expertise which need to be better defined. Many industrial/organizational (I/O) psychologists are skeptical of the utility of personality measures for industrial assessment. Several points concerning the use of personality measurement in I/O assessment are important. First, there is a need to establish clear agreement between those qualities a company seeks to identify and those qualities the personality measure actually measures. Personality measures valid in non-industrial settings may be less valid in industrial settings because of different demands of the corporate environment. Measures specifically developed for the prediction of specific behaviors are preferable. The interpretation of test scores must also be considered; personnel decisions based on personality measures should consider how much of a personality characteristic produces desired results, and whether too much of a characteristic will produce undesirable results. When the concept being measured is potential ability, personality measures are an appropriate methodology. They are inappropriate as predictors of actual ability. Finally, because the workers' environment interacts with personality, workers' perception of their environment must be considered. It is in this area of workers' perception of their environment that personality psychologists can make a meaningful contribution to I/O psychology. (The suggested guidelines are illustrated with a case example of a program to identify creative persons.) (MCF)

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INDUSTRIAL ASSESSMENT OF CREATIVE PERSONS AND WORK ENVIRONMENTS[1]

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Personality psychology shows a slow but steady resurgence as a significant contributor to the study of industrial psychology and organizational behavior. The sponsorship by Division 14 of APA of a symposium entitled "*Industrial Assessment and Personality Psychology*" provides circumstantial evidence for personality psychology's re-emergence in I/O psychology. The presumption, of course, is that we have come here today to "praise" personality psychology, not to "bury" it.

But forays by personality psychologists into the domain of industrial psychology and organizational behavior should proceed judiciously, lest the field commit the same mistakes and misjudgments in the 1980s that it did in the 1950s, 60s, and 70s. Personality psychology has a definite contribution to make to I/O psychology, but it is a contribution whose parameters, limitations, and areas of expertise need to be better defined.

The purpose of today's presentation is to delineate some guidelines to keep in mind when using measures of personality in industrial settings, particularly with regard to industrial assessment. What should emerge during the course of this presentation is a clearer indication of personality psychology's potential and particular contribution to I/O psychology.

To help illustrate the points I am making today, a project is described whose purpose was to identify creative persons. More specifically, my assistance was sought by a large manufacturing company interested in establishing an industrial assessment program. The company sought to identify creative persons among their existing work force of plant engineers as well as identify creative persons among applicants for future positions as plant engineers (Lifton, 1984).

The type of program specifically requested by the company's personnel director was a program based predominantly, if not exclusively, on paper-and-pencil measures of creativity and personality. Simulation exercises, assessment centers, and other more behaviorally-oriented programs were not to be considered.

It is perhaps a sign of the continued skepticism among I/O psychologists concerning the utility of personality measures that I was apparently the sixth consultant contacted by the personnel director, but only the first to indicate that such a program could be designed.

My first objective when designing this industrial assessment program was to understand from the company's perspective what they meant by the term creativity. For them, creativity meant an ability to produce and develop original ideas, to devise new methods, construct new hypotheses, and offer new solutions to old problems. That much of their conceptualization of creativity was consistent with the conceptualizations offered by personality psychologists who have studied creativity in the past (cf. Barron, 1963; MacKinnon, 1978; Murray, 1938; Welsh, 1980). Measures of creativity developed by these personality psychologists have sought to assess qualities of innovation and novelty.

But, not surprisingly, there also were disagreements between the company's view of creativity and the more traditional views of personality psychology. First, the company sought creative persons who could and would be creative within the structured environment of a corporation. Conversely, most personality measures of creativity identify as creative, persons who rebel against rules, regulations, and authority; persons who are inclined to be more individualistic than group-oriented. Such persons would not make good "team-players" within a corporate environment.

Second, the company sought creative persons whose solutions to problems, while innovative, also were appropriate, adequate, and cost-effective. Consideration for the corporate bottom-line is a characteristic typically not associated with creative persons.

Third and finally, the company sought creative persons who were calculated risk-takers as opposed to risk-takers at any cost. As the director of engineering told me, "Risks are tolerated, mistakes are not." The underlying meaning of his statement was risk-taking would be supported by the company, but only if it consistently led to viable results.

Two points concerning the use of personality measures in I/O assessment emerge from this discussion of personological versus corporate definitions of creativity. One point is obvious; the other more subtle.

The more obvious point concerns the need to establish clear agreement between what qualities a company seeks to identify in its personnel, and what qualities the personality measure actually measures. This, of course, is the old issue of validity. But the issue is less the validity of the measure itself, and more the validity of the measure in the particular situation to which it is being applied. Measures of personality which have proven track records on validity in non-industrial settings (e.g., education or counseling settings) may prove less than valid in industrial settings due to the unique, or at least different, demands of a corporate environment.

If personality measures are to be used effectively in the prediction of workers' behavior, then measures specifically developed for such predictions are preferable. The promising findings of the Hogan Personality Inventory (cf. Hogan, 1984), designed specifically for personnel predictions, when compared with the Edwards Personal Preference Schedule (cf. Howard, 1984), designed for more general usage, illustrate my point. Even the California Psychological Inventory, the best single measure of normal personality developed to date, in its forthcoming revision (Gough, in press) will include two new scales entitled "work orientation" and "managerial interest" to make it more applicable for industrial usage.

The second, less obvious point, concerns the interpretation of scores derived from personality measures. The presumption that "more" of a particular personality characteristic is "better" may not always be correct. In the particular case of creativity, high scorers on a measure of creativity would prove as ineffective in their job performance as low scorers, since the criteria for successful job performance is creative but effective work or behavior. The company sought workers who were innovative, but not too innovative; risk-oriented but not too risk-oriented; independent but not too independent; and so on. Hence, predictions concerning personnel decisions based on personality measures should consider how much of the personality characteristic produces the desired behavior, and can too much just like too little of the characteristic produce less than desirable results.

Most importantly, still on this point, correlational analyses, the traditional statistical method for establishing the predictive validity of a personality measure, assume "more is better." That is, the more of a particular personality characteristic a person possesses (viz, the higher their score), the more that person should exhibit the criterion behavior being predicted. Correlational analyses assume a linear relation between the personality characteristic and the criterion behavior. But, as in the case of creativity, the relation is described better as curvilinear. Hence, the apparent poor predictive validity of many personality measures when used in I/O settings may be due more to the statistical method used to establish the measures' validity and due less to the measures themselves.

My second objective when designing the industrial assessment program to identify creative plant engineers was to ensure that the concept measured was potential creative ability rather than actual creative ability. Potential ability implies that the person possesses a yet-to-be-demonstrated propensity for creative work. Conversely, actual ability implies that the person has a well-documented history of creative work and behavior. Simulation exercises are the appropriate methodology for assessing actual ability. In such exercises, tasks similar to actual, on-the-job tasks are presented to applicants. Their solutions to these tasks are judged against pre-established standards determined from the performance of persons already successful on

the job.

The point here is that when the prediction being made involves actual ability, personality measures are not the most appropriate methodology. However, they are an appropriate methodology for the prediction of potential ability.

In order to identify potential ability, individuals are sought whose personality characteristics resemble the personality characteristics of individuals already successful on the job. For the particular case of creativity, persons were sought who are (1) *socially dominant* (e.g., leadership, persistance, initiative); (2) *status-oriented* (e.g., ambitious, success-oriented); (3) *socially skilled* (e.g., poised and spontaneous in social interactions); (4) *self-accepting* (e.g., self-confident, self-assured); (5) *empathic* (e.g., sensitive to others' feelings and needs, respectful of others); (6) *feminine* (e.g., nurturant, supportive, patient); and (7) *flexible* (e.g., preference for change, novelty, innovation, risk).

Persons also were sought who are (8) *low on socialization* (e.g., not automatically accepting of rules, authority, customs); (9) *low on self-control* (e.g., impulsive, uninhibited); (10) *low on impression management* (e.g., not concerned with how others react to them or creating a good impression); and (11) *low on communality* (e.g., unconventional, unusual, dissimilar from other people).

Finally, persons were sought who are (12) *achievement-oriented*, but who achieve best in situations encouraging independent thought and behavior as opposed to situations well-defined by rules and regulations.[3]

Persons fitting this pattern of personality characteristics were believed to possess potential creative ability.

Given these personality characteristics of creative persons (particularly the last five of low on socialization, self-control, impression management, and communality, and preferring achievement via independence rather than conformance), it is probable that such persons when working within a corporate setting more likely would be labeled as "trouble makers" than "creative workers". This brings me to my last point for today. It concerns how to increase the likelihood that such persons, in fact, will be viewed by supervisors and co-workers as creative, and not as trouble makers.

One way to achieve this is to assess not only the personality of the individual worker, but also the personality of the worker's on-the-job environment.

Environmental or situational determinants of job performance have been underemphasized by personality psychologists working in I/O psychology. The presumption of many such personality psychologists is that "personality will triumph" regardless of the situation. Put another way, the strength of a worker's personality will prevail even in a work environment less than conducive to the worker's needs.

Instead, more consideration should be given to the work environment itself and its interplay with the worker's personality. For example, creative potential will not triumph in a work setting in which creativity is not valued. It is one thing for a company to state that it wants workers who are more creative; it is another to re-shape their work environment as well as the company's organizational climate so that creative personalities will emerge to their fullest potential.

However, it is not the workers' actual work environment which ultimately affects their job performance, but rather their perception of their environment. Offices without walls, flexible work schedules, individual rather than team projects, and so on do not ensure creative products from creative workers. The workers themselves also must perceive their environment as a creative one.

It is in this specific area of workers' perceptions of their environment that personality psychology can make a meaningful contribution to I/O psychology. Measures are available to assess workers' perceptions of their actual, ideal, or expected work environment (Moos, 1974). In the end, such measures may prove more useful in the prediction of job performance than,

for example, organizational climate surveys.

Additionally, some persons work well in any type of job environment; others only in a specific type of environment. Measures are available to assess individual differences in the types of environments preferred by certain types of persons (McKechnie, 1974).

Continuing with the example of creativity: In order to ensure that persons identified as creative actually, once on the job, produce creative products, changes need to be made in the company's work environment. These changes would increase the likelihood that such persons would perceive their work environment as a creative one. Such changes include (1) supervisors showing respect and confidence in the ability of the workers; (2) workers being free to act autonomously and independently; (3) providing workers with a variety of challenging tasks; and (4) giving workers tangible rewards (e.g., bonuses, promotions) for effectively creative performances. The perception by workers of (5) corporate disapproval for failure and (6) risk-taking also needs to be minimized.[4]

This often overlooked concept of environmental perception may explain, in part, the traditionally poor predictive validity of personality measures for personnel decisions. Let us accept for argument's sake that, for example, a particular personality measure of creativity has perfect construct validity; that the measure in fact measures creativity. Such a measure still may have poor predictive validity because the job environment into which the worker was placed either (i) actually discouraged creativity or (ii) more likely, was perceived by the worker as discouraging creativity. Workers identified as possessing creative potential and who perceive their job environment as encouraging creativity are much more likely to be actually creative on the job. Therefore, they are much more likely to meet the behavioral criteria against which the personality measure of creativity will be judged.

Hence, the presumption that "personality will triumph over environment" has led to the conclusion that if a personality measure has poor predictive validity, it must be due to the measure itself. This, in turn, has led I/O psychology perhaps prematurely to believe that personality measures lack predictive validity and hence lack utility. But both the predictive validity and the utility of personality measures would increase if we consider both the personality of the worker and the perception by the worker of the job environment.

To conclude, despite the prevailing skepticism among I/O psychologists concerning personality measures, such measures do have a place within I/O psychology. But their place must be carefully defined.

Personality measures work best in I/O settings when:

(1) the personality measures have been designed, developed, and validated for use with issues relevant to I/O psychology, not as general measures of personality;

(2) the scores are interpreted in a meaningful manner and, most importantly, when curvilinear not just linear relations are allowed between personality scores and the criterion behaviors to which they predict;

(3) the prediction being made concerns potential ability, not actual ability; and

(4) consideration is given to the workers' perceptions of their job environments, thereby allowing the workers' personalities to be "fit" to the personalities of their job environment.

In short, measures of personality should not be considered as a panacea for I/O psychology particularly in the area of industrial assessment, but neither should such measures be considered as voodoo medicine. When properly used, personality measures provide a necessary, valuable, and specific contribution to industrial/ organizational psychology.

Author's Notes

[1] Paper presented as part of the Division 14 symposium on *Industrial Assessment and Personality Psychology*, Peter D. Lifton (Chair), Howard M. Weiss, Ann Howard, Robert Hogan, Marvin D. Dunnette (Discussant) at the 92nd Annual Conference of the American Psychological Association, Toronto, Canada, August, 1984.

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[2] The symposium was organized while the chairperson was an assistant professor in the Department of Psychological Sciences, Purdue University, West Lafayette, IN.

[3] These personality descriptions are based on MacKinnon's (1962) study of the personality characteristics of creative individuals.

[4] These environmental descriptions are based on MacKinnon's (1983) paper on environments which favor creativity.

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